Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) Procedure for ~~control of the~~ controlling a content of microorganisms in a sugary, aqueous process medium of extraction systems ~~of the~~ in a sugar industry using hops acid as ~~the~~ an active substance, said procedure comprising the steps of: ~~characterized by the fact that~~

bringing hops acid ~~brought~~ into solution in an aqueous alkaline medium to form a first solution, and

adding said first solution ~~is added~~ to the process medium, whereby ~~the~~

a pH value of the ~~added~~ first solution is higher than ~~the~~ a pH value of the process medium, and ~~(and)~~

the hops acid in the process medium passes over from ~~the~~ a dissociated form into ~~the~~ a non-dissociated form.

2. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein the addition of the first solution to the process medium is done in a discontinuous manner.

3. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein the first solution ~~displays~~ contains hops acid ~~in~~ at a concentration of 2 – 40%~~, preferably 5-20%, preferably 10-15%~~.

4. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein ~~the~~ said first solution ~~added to the process medium displays~~ has a pH value of 7.0 – 13.0~~, preferably 7.5—12.0, preferably 9.5—11.0~~.

5. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein ~~being dealt with at least predominantly in the case of~~ said hops acid is substantially a β-acid.

6. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein ~~being dealt with at least predominantly in the case of~~ said hops acid is an α-acid ~~and/~~or an iso-α-acid.

7. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein ~~in the case of the~~ said hops acid ~~being dealt with at least predominantly is~~ comprises isomerized hops acid ~~and/or its derivatives, or in any event a mixture thereof~~.

8. (currently amended) Procedure according to Claim [[7]] 1, ~~characterized by the fact that~~ wherein ~~in the case of the derivatives being dealt with at least predominantly are~~ said hops acid comprises ~~tetrahydo-~~tetrahydro α-acid (THAA), ~~or~~ hexahydro- β-acid (HHBA), ~~and in the case of the hops acid derivatives are~~ iso-α-acid (IAA), rho-iso-α-acid (RIAA), tetrahydro-iso-α-acid (THIAA), ~~and/~~or hexahydroxide-iso-α-acid, ~~or in any event mixtures thereof~~.

9. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein ~~provided as an~~ said alkaline medium ~~is~~comprises an alkaline hydroxide, ~~in particular potassium hydroxide or sodium hydroxide, or a mixture thereof~~.

10. (currently amended) Procedure according to Claim 9, ~~characterized by the fact that~~ wherein ~~the concentration of the~~ said alkaline medium ~~amounts to~~ contains a concentration of 0.1 - 5%, ~~preferably 1 5% preferably 2 4%~~ alkaline hydroxide.

11. (currently amended) Procedure according to Claim 1, ~~characterized by the fact that~~ wherein ~~besides the addition of the solution,~~ an alkaline lye is also supplied to the process medium ~~is additionally alkaline lye~~.

12. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein the hops acid is dissolved in the alkaline medium as salt.

13. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein the first solution is added to the process medium manually.

14. (currently amended) Procedure according to claim 1, ~~characterized by the fact that~~ wherein the first solution is added to the process medium over already available dosing systems.

15. (currently amended) Procedure for the production of a solution of hops acid used in a process for controlling a content of microorganisms in a sugary, aqueous process medium of extraction systems in a sugar industry ~~for addition to a sugary, aqueous process medium, in particular of the sugar industry according to the procedure based on claim 1,~~ comprising the following procedural steps ~~comprising~~:

a) preparation of an aqueous medium;
b) heating;
c) addition of an amount of hops acid, ~~in particular melted hops acid~~, measuring the amount of hops acid such that the end concentration lies within a ~~prescribed~~ predetermined concentration range;
d) addition of ~~the~~ an alkaline medium for reaching a predetermined pH value;
e) mixing the alkaline medium with the ~~added in~~ hops acid;
f) maintaining the mixture at an elevated temperature over a ~~prescribed~~ predetermined period of time;
g) separating out the hops acid solution from the mixture or vice-versa, as well as
h) cooling the hops acid solution.

16. (currently amended) Procedure according to Claim 15, ~~characterized by the fact that~~ wherein

the concentration of the hops acid in said hops acid solution lies in the range of 2 – 40%, ~~preferably 5 – 20%, especially preferred 10 – 15%~~.

17. (currently amended) Procedure according to claim 15, ~~characterized by the fact that~~ wherein the mixture is held at a temperature in the range of 40 – 80° C, ~~preferably 60 – 80° C, preferably 65 – 75° C.~~

18. (currently amended) Procedure according to ~~the foregoing~~ claim 15, ~~characterized by the fact that~~ wherein said hops acid solution is cooled down to a temperature below 10° C, ~~preferably to a temperature in a range from 2 – 7° C.~~

19. (currently amended) Procedure according to ~~one of the foregoing~~ claim 15, ~~characterized by the fact that~~ wherein the separated out solution of hops acid has ~~displays~~ a pH value in the range of 7.0 – 13.0, ~~preferably 7.5 – 12.0, preferably 9.5 – 11.0~~.

20. (currently amended) Procedure according to claim 15, ~~characterized by the fact that~~ wherein ~~used as~~ said hops acids are selected from the group consisting of β-acids, α-acids, iso-α-acids ~~or a mixture thereof~~, ~~or~~ isomerized hops acids ~~and/or their derivatives, in particular at least predominantly tetrahydro-α-acid (THAA) or hexahydro-β-acid (HHBA) or iso-α-acid (IAA), rho-iso-α-acid (RIAA), tetrahydro iso-α-acid (THIAA) and/or hexahydroxide iso-α-acid,~~ or a mixture thereof.

21. (canceled)

22. (new) Procedure according to claim 1, wherein said first solution contains hops acid at a concentration of 5- 20%.

23. (new) Procedure according to claim 1, wherein said first solution contains hops acid at a concentration of 10 – 15%.

24. (new) Procedure according to claim 1, wherein

said first solution has a pH value of 7.5 – 12.0.

24. (new) Procedure according to claim 1, wherein
said first solution has a pH value of 9.5 – 11.0.

25. (new) Procedure according to claim 1, wherein
said hops acid comprises an α-acid and an iso-α-acid.

26. (new) Procedure according to claim 9, wherein
said alkaline hydroxide is selected from the group consisting of potassium hydroxide, sodium hydroxide, or both.

27. (new) Procedure according to Claim 26, wherein
said alkaline medium contains a concentration of 0.1 - 5% alkaline hydroxide.

28. (new) Procedure according to Claim 26, wherein
said alkaline medium contains a concentration of 1 –5% alkaline hydroxide.

29. (new) Procedure according to Claim 26, wherein
said alkaline medium contains a concentration of 2 – 4% alkaline hydroxide.

30. (new) Procedure according to Claim 9, wherein
said alkaline medium contains a concentration of 1 –5% alkaline hydroxide.

31. (new) Procedure according to Claim 9, wherein
said alkaline medium contains a concentration of 2 – 4% alkaline hydroxide.

32. (new) Procedure according to Claim 15, wherein
the concentration of the hops acid in said hops acid solution lies in the range of 5 – 20%.

33. (new) Procedure according to Claim 15, wherein
the concentration of the hops acid in said hops acid solution lies in the range of 10 – 15%.

34. (new) Procedure according to claim 15, wherein
the mixture is held at a temperature in the range of 60 – 80° C.

35. (new) Procedure according to claim 15, wherein
the mixture is held at a temperature in the range of 65 – 75° C.

36. (new) Procedure according to claim 15, wherein
said hops acid solution is cooled down to a temperature in a range from 2 – 7° C.

37. (new) Procedure according to claim 15, wherein
the separated out solution of hops acid has a pH value in the range of 7.5 – 12.0.

38. (new) Procedure according to claim 15, wherein
the separated out solution of hops acid has a pH value in the range of 9.5 – 11.0.

39. (new) Procedure according to claim 15, wherein
said hops acids is selected from the group consisting of tetrahydro-α-acid (THAA), hexahydro-β-acid (HHBA), iso-α-acid (IAA), rho-iso-α-acid (RIAA), tetrahydro-iso-α-acid (THIAA), hexahydroxide-iso-α-acid, or a mixture thereof

39. (new) Procedure according to claim 15, wherein
said hops acid comprises a melted hops acid.